

Libraries of Silicon and Fiber Optics

Brewster Kahle

Thinking Machines Corporation

May 30, 1992

Thinking Machines Corporation

Wide Area Information Servers Applications

- **PeatMarwick DowJones Apple
Thinking Machines Joint Project**
- **U.S. Geological Survey**
- **Network Services**
- **Thinking Machines Corporation**
- **Columbia Law Library**
- **WAIS on Internet**

Future Libraries

- **Reading Rooms**
- **Corporate Libraries**

Peat Marwick / Dow Jones / Apple / Thinking Machines Joint Project

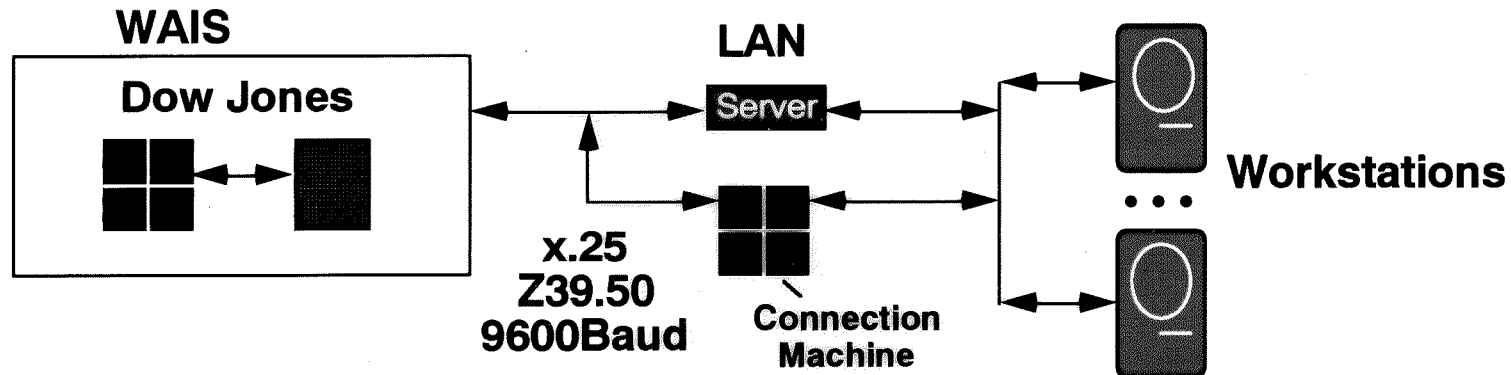
Problem:

Accountants and Tax Consultants need access to up-to-date information from inside the company and outside.

Answer:

Use a wide area network with WAIS servers to allow easy access to personal, corporate and published information.

Peat Marwick System Structure

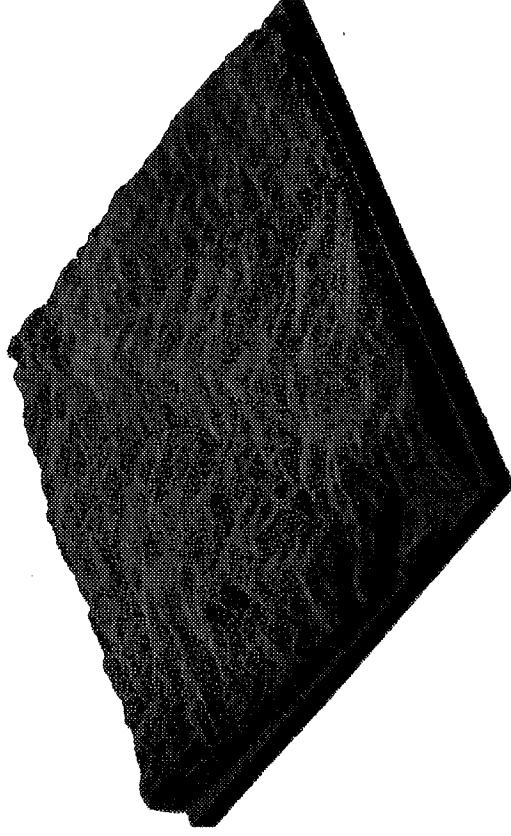


Operations:
 Archiving
 Queries
 Retrieval
IR Type:
 Broadcast
 Query by Example
Databases:
 Wall St Journal
 Barron's
 400 Business Mags

CM:
Operations:
 Queries
IR Type:
 enhanced relevance
 feedback
Databases:
 DowVision and memo's,
 mail, word processor files

Mac:
Operations:
 Human Int
 Retrieval
 Queries
 "Caching" Docs
 User Profiles
IR Type:
 Query by example
Databases:
 Personal Text
 Cached data

U.S. Geological Survey



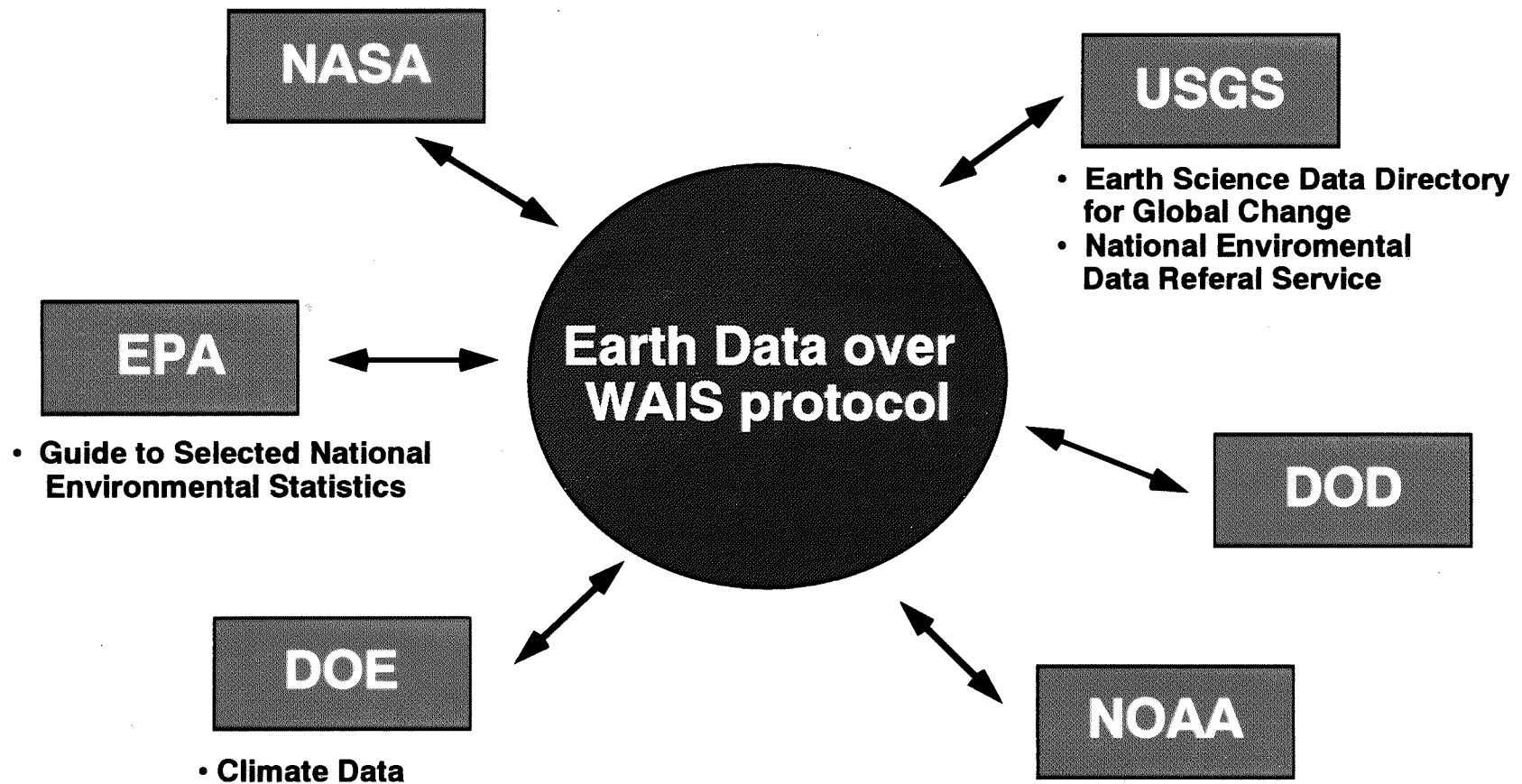
Problem with Earth data:

- Data in multiple agencies
- Data in different systems

Answer:

- Use WAIS protocol
- Data stays with creators

U.S. Geological Survey



Network Services

Problem:

- **Finding resources on networks**

Answer:

- **Finding People: 5 different WAIS servers**
- **Finding Software: 7 different WAIS servers**
- **Mailing Lists and Newsgroups: 3 WAIS servers**

Operated by Ed Vialmetti, consultant to CICNet.

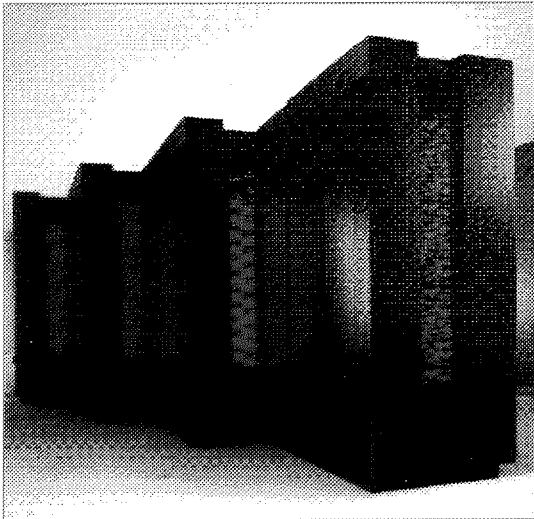
15 widely used databases, 50 total.

500MBytes Unix workstation.

500 questions per day.

10 hours/week of Ed's time.

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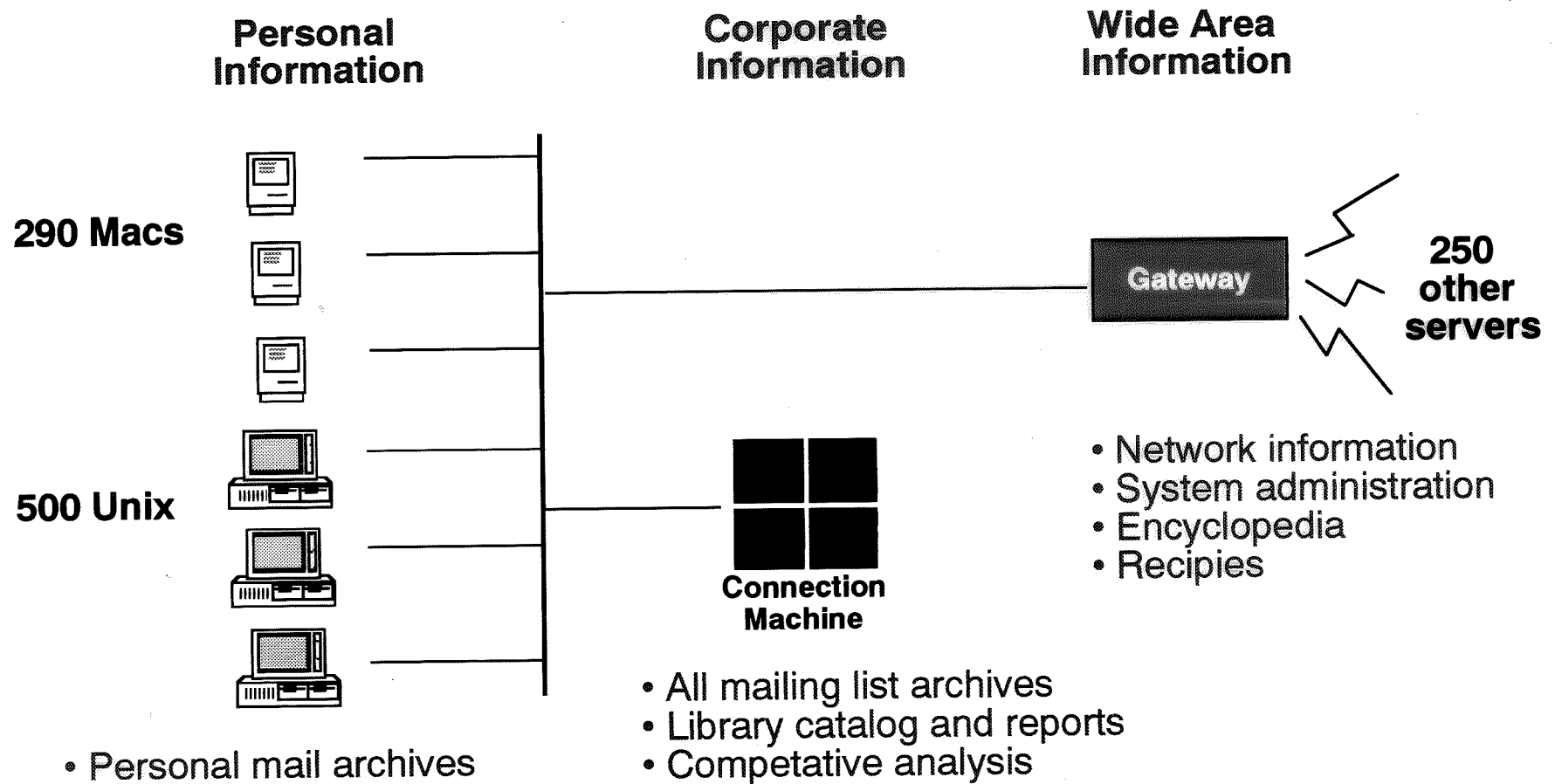
Problem:

- **Keeping people informed Even though the employees are all over the world and use different machines.**

Answer:

- **Use a Connection Machine as our corporate memory of company information and contacts.**

Thinking Machines System



Columbia Law Library

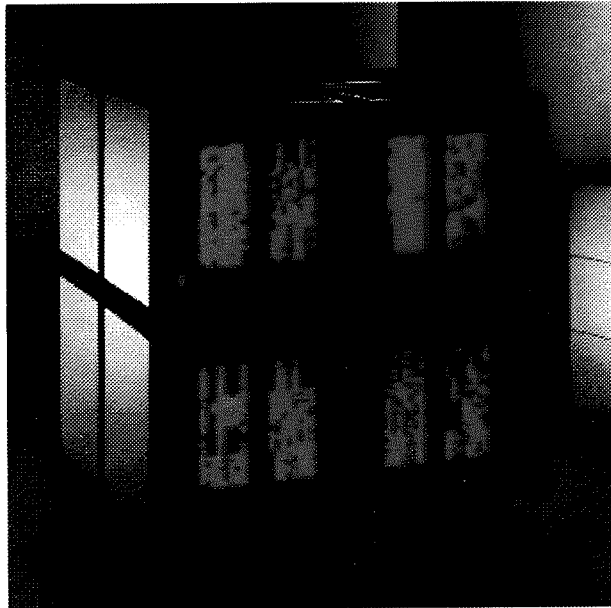
Problem:

- **They need more space, but no more buildings are allowed.**
- **Their students want online access.**

Answer:

- **Use a Connection Machine for catalog and special collections of text and images.**
- **Use direct lines to Mead and WestLaw for other material.**

Columbia Law Library System



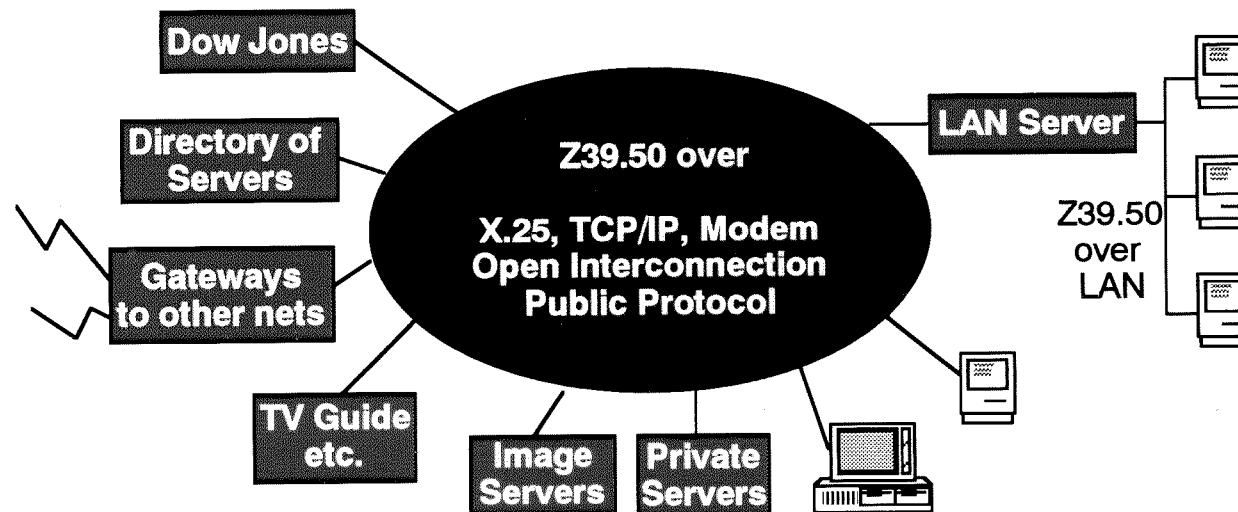
- Nuremberg Trials
- Rosenberg Trial
- United Nations Publications
- Catalog

Reference Desk

Dormitories

Campus
Networks

WAIS: Wide Area Information Servers



Easy point-and-click interface to worldwide information

WAIS on Internet



- Over 14,000 users on the Internet
- Users in 28 Countries: Mexico, Singapore, Finland, Australia, . . .
- 250 Databases served from 12 Countries: Norway, Canada, UK, . . . New Database every day.
- VT-100 Interface in California: 240 each day, 4,600 different machines

Thinking Machines Corporation

Corporate Librarians

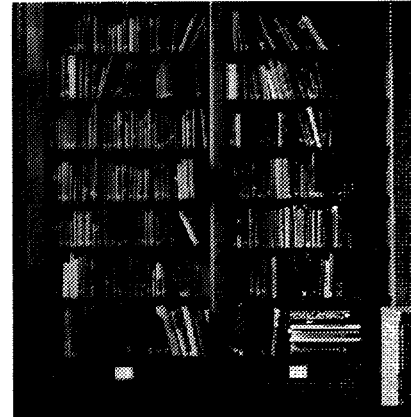
Old Accountants



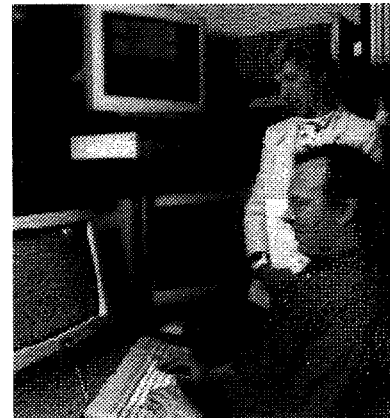
New Accountants



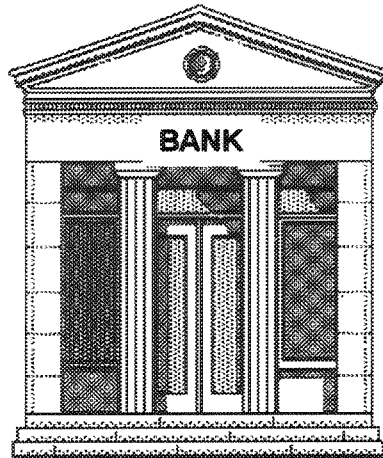
Old Libraries



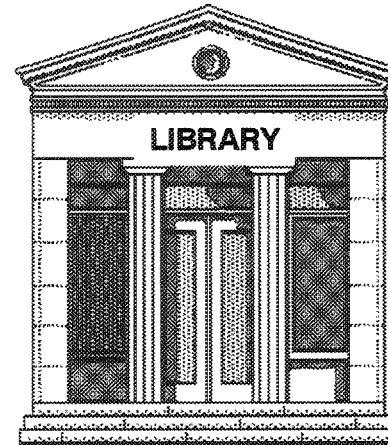
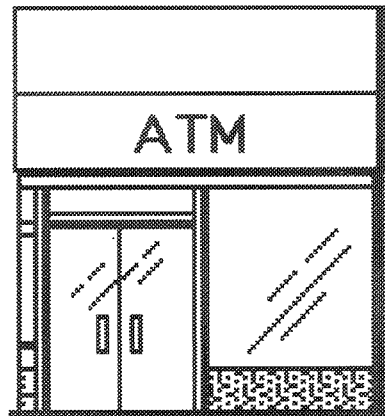
New Librarians



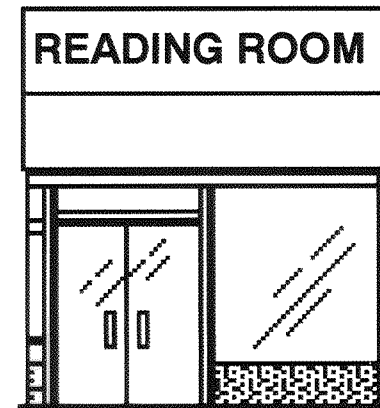
Branch Libraries become Reading Rooms



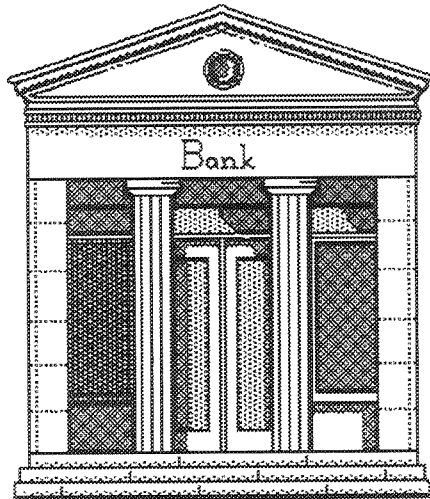
became



might become



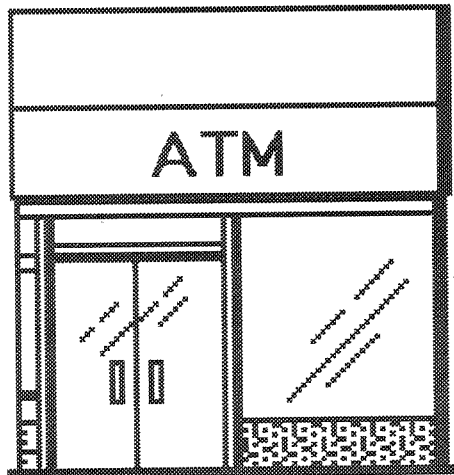
Banks: Before and After



Old Banks

- Centrally located
- Limited hours
- Local information
- Physical savings books
- Used rarely

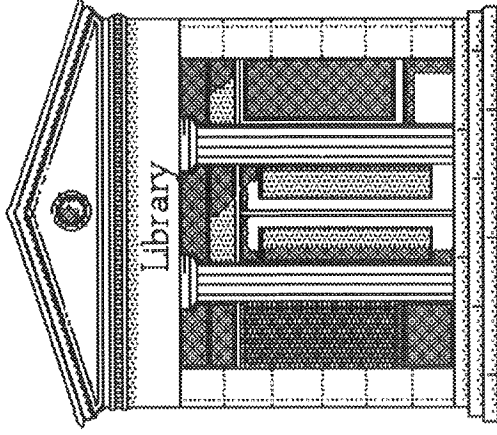
Banks: Before and After



Automatic Teller Machines

- Everywhere
- Available all the time
- Global information
- Access cards
- Constantly used

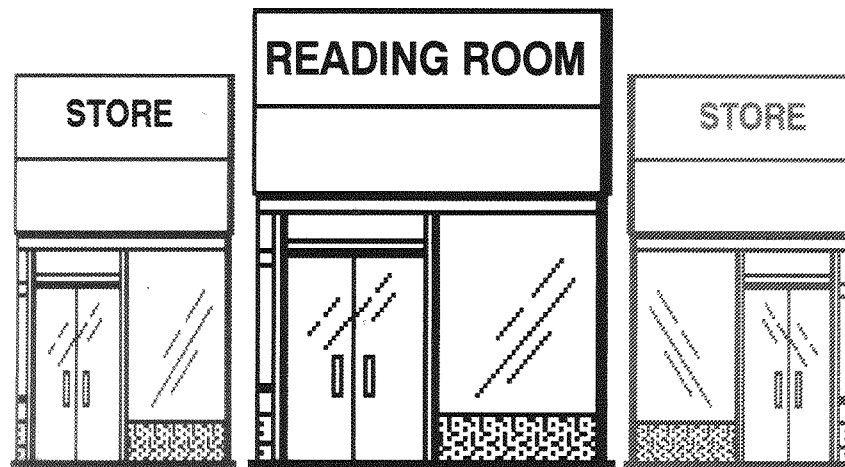
Libraries: Now and Future?



Libraries

- Centrally located
- Limited hours
- Local information
- Physical library cards

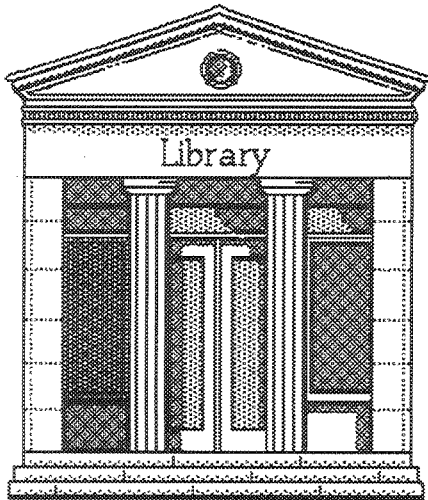
Libraries: Now and Future?



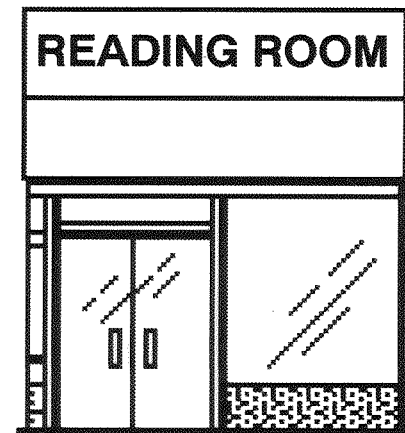
Reading Rooms

- Everywhere
- Available all the time
- Global information
- Access cards

... but still similar.



**Helpful librarians
Comfortable reading chairs
Current fiction
Easy browsing**



**Helpful librarians
Comfortable reading chairs
Current fiction
Easy browsing**

Conclusion: WAIS Applications

- **Automating the "Good old boy network"**
- **Corporate memory**
- **Virtual libraries of text and images**
- **Helping customer support**
- **Government information sharing**